Examples of Adaptation Planning in Bay Area Communities

Compiled by San Francisco Bay Conservation and Development (BCDC) Staff. Last updated: October 2009.

Climate Change and Water Resources

Community/Organization:

Santa Clara Valley Water District.

Description:

On Jan. 29, 2008 the Santa Clara Valley Water District's Board of Directors hosted a special meeting and work study session to explore climate change, its potential local impacts and policy implications. Based on the meeting and work study session findings, the Board adopted a Resolution on Climate Change and Water Resource Management in Santa Clara County in which the board made a strong commitment to take a leadership role in addressing climate change. The resolution specified that

> The District will apply understanding of climate change and climate change impacts as appropriate in water supply plans, flood management project plans, asset management and infrastructure plans, California Environmental Quality Act assessments and environmental impact reports, energy management plans, business plans, and strategic plans;

The Board also modified the District's policies to reflect and implement the adopted resolution. The District incorporates consideration of climate change impacts into long term water supply planning processes, watershed and flood control planning processes, and as part of its preparation of environmental documentation for projects.

The District has also recently launched a climate change portal with an extensive, well-organized library of climate change information, as well as tools for assessing sea level rise impacts to infrastructure and community resources in Santa Clara County. In tandem with launch of the portal, the District has done extensive outreach to city and county planners and public works staff to introduce them to the portal and to understand what information and tools they need to incorporate consideration of climate change impacts into their planning decisions.

More Info:

http://www.valleywater.org/Water/Where_Your_Water_Comes_From/Water%20Supply%20and%20Infrastructure%20Planning/Climate%20Change/

Marin Countywide Plan

Community/Organization:

County of Marin, Community Development Agency

Description:

The county laid the groundwork for its adaptation program in its General Plan update of 2007. The policies under GOAL AIR-5: Adaptation to Climate Change outline a process of:

- Coordinating with local and regional agencies to leverage funding and expertise;
- Studying and identifying climate change impacts and issues specific to Marin County within various sectors;
- Preparing response strategies for these issues;
- Monitoring climate change impacts within the county;
- Seeking resources to implement response strategies;

- Protecting and enhancing native habitats and biodiversity;
- Conducting public outreach and education to Marin residents and businesses;
- Committing to implementing floodplain ordinances: and
- Amending the Marin County Code to include construction standards for areas threatened by future sea level rise.

Marin County has begun work on identifying of how bayshore wetland habitat will change as a result of sea level rise for the Marin shoreline (Richardson Bay, San Pablo Bay, and the Petaluma River), and potential adaptive strategies for these habitat areas. (Philip Williams & Associates, Ltd. is the consultant completing this work.)

More Info:

http://www.co.marin.ca.us/depts/CD/main/comdev/ADVANCE/CWP/INDEX.CFM

Preliminary Study on the Affect of Sea Level Rise on the Resources of the Hayward Shoreline

Community/Organization:

Hayward Area Shoreline Protection Agency (HASPA), Mike Anderson (East Bay Regional Park District). (Project work being completed by Philip Williams & Associates, Ltd.)

Description:

A preliminary study on the impact of sea-level rise on the resources of the Hayward shoreline, and the actions that could be taken to protect both the wetlands and shoreline development in this area. The goal of this project is to provide HASPA with a preliminary assessment of the possible impacts, mitigations, costs, funding sources, and strategies to manage the affects of sea level rise on both the natural and developed resources in study area. The study area for this project is HASPA area from north of Hwy 92 to San Leandro (Citation Marsh).

The study used sea level rise estimates and maps already prepared by the State Resources Agency and BCDC. Staff from interested agencies were invited to visit the site to collaboratively discuss existing and planned development in the impacted area. Information from these discussions is being used to annotate the sea level rise maps with the infrastructure that would be affected, and to create a narrative describing the map, and potential impacts of sea-level rise, opportunities and constraints, and potential adaptation measures.

The measures that the study will investigate are:

- modifications to the existing wetlands to enhance their ability to buffer the impacts from the rise in sea level; e.g. managing the shape of the mudflat (mudflat recharge);
- the realignment of levees to modify tidal flow; e.g. realigning outboard levees to gain more marsh;
- installation of offshore barriers to reduce wave energy (breakwaters); and
- increase levee height.

More Info:

http://www.pwa-ltd.com/projects/pr_cc_haywardShrlnSLR.html

Pacifica State Beach Managed Retreat, Beach and Estuary Restoration

Community/Organization:

City of Pacifica, CA. (Project work completed by Philip Williams & Associates, Ltd.)

Description:

An example of a managed retreat project that reduced flooding hazards by realigning oceanfront property and infrastructure away from coastal erosion hotspots, and restored estuarine functioning on San Pedro Creek.

More Info:

http://www.pwa-ltd.com/projects/pr_cstl_Pacifica.html

Permitting Greywater Systems

Community/Organization:

Berkeley, CA.

Description:

Berkeley is the first California city to issue a permit for a residential system to reuse greywater. Greywater is untreated wastewater that has not come into contact with toilet waste. The permitted system is installed at the Ecology Center's EcoHouse. To help others design, install and use greywater systems, the Ecology Center offers a fact sheet at its website with specific guidelines as well as links to resources for learning more (e.g. classes), information about buying kits, and design drawings for the Center's system. Berkeley is in the process of establishing standards for obtaining a permit for greywater systems within the city.

More Info:

http://www.ecologycenter.org/factsheets/greywater.html

Berkeley Climate Action Plan

Community/Organization:

Berkeley, CA.

Description:

Berkeley's Climate Action Plan contains Chapter 6, "Adapting to a Changing Climate." With the stated goal of making "Berkeley resilient to the impacts of climate change" the plan identifies policies and implementation actions for achieving this goal. The implementation actions are primarily ones that can be enacted without further analysis of climate change vulnerabilities, and are extensions of existing sustainable practices.

More Info:

http://www.berkeleyclimateaction.org/docManager/1000000248/Chapter%206%20-%20Adapting%20to%20a%20Changing%20Climate.pdf

City of San Rafael Climate Action Plan

Community/Organization:

City of San Rafael.

Description:

The chapter of the Climate Action Plan entitled "Our Environment" includes recommendations for adapting to sea level rise, increasing local crop production, participating in a Marin regional vulnerability assessment, and creating a local vulnerability assessment.

More Info:

http://www.cityofsanrafael.org/Government/Community_Development/Green_Initiatives.htm

Resilient San Francisco

Community/Organization:

City of San Francisco. (San Francisco Public Utilities Commission, Office of the Mayor, and Department of the Environment)

Description:

Through the San Francisco Public Utilities Commission (SFPUC), the city has been identifying vulnerabilities in its water supply, stormwater systems, and wastewater treatment facilities due to projected climate change impacts, and ways to address these issues in management of systems, as well as in design of capital improvement projects.

As of Summer 2009, the city is expanding its Adaptation Planning Program by embarking upon a city-wide, multi-sector assessment of vulnerabilities to climate change impacts, and development of a comprehensive adaptation plan. This is a coordinated effort of staff from the SFPUC, the Mayor's Office and the Department of the Environment. The city plans to engage stakeholders in the planning process through different groups:

- a Climate Adaptation Taskforce with key city and non-governmental stakeholders who will develop the Adaptation Plan's recommendations;
- the Taskforce Working Groups, which will include participants that may not be part of the larger Taskforce, will consider climate change's impact on areas of the built environment;
- a Project Consultant that will identify anticipated climate impacts on San Francisco including the range and probability of these impacts, and help Taskforce understand how these impacts inform long-term planning; and
- A Scientific Advisory Panel which will direct the consultant to existing data and analysis on regional climate impacts, review projections of anticipated impacts, and provide ongoing technical expertise to Taskforce.

More Info:

The city is in the process of issuing a request for proposals for the vulnerability assessment work.

Multi-Jurisdictional Local Hazard Mitigation Plan Update 2010 (DRAFT)

Community/Organization:

Association Bay Area Governments (ABAG)

Description:

The federal Disaster Mitigation Act of 2000 (DMA 2000) requires that cities, counties, and special districts have a Local Hazard Mitigation Plan to be eligible to receive FEMA hazard mitigation funds. To assist local governments in meeting this requirement, ABAG is the lead agency on the Multi-Jurisdictional Local Hazard Mitigation Plan (MJ-LHMP) for the San Francisco Bay Area. Cities and counties can adopt and use all or part of this multi-jurisdictional plan in lieu of preparing all or part of a Local Hazard Mitigation Plan themselves. They need to have participated in the development of the multi-jurisdictional plan to adopt it, however.

The Plan has chapters that address infrastructure, health care, housing, economy, government, schools and education, environment and land use. For each of these sectors, the chapter includes various mitigation strategies to address earthquake, flooding, wildfire, landslide, tsunamis, hazardous materials release and dam failure. The chapters additionally outline regional priorities for these strategies.

The 2005 version of the Plan concluded that climate change should be studied and monitored but included no specific actions related to climate change and hazard mitigation. The 2010 draft carries through this recommendation that jurisdictions remain informed, and includes strategies (that are identical the U.S. Conference of Mayors' Climate Protection Agreement) for mitigating

greenhouse gas emissions. Additionally, two of the chapters – Housing and Economy – each contain a hazard mitigation strategy to "inform private shoreline-property owners of the possible long-term economic threat posed by rising sea levels."

Addressing climate change issues through disaster preparation and hazard mitigation will be one critical component of the Bay Area's successful adaptation to a changing climate. The next MJ-LHMP update will occur in 2015, potentially providing an opportunity to comprehensively integrate considerations of climate change impacts into Bay Area hazard mitigation. ABAG hazards planning staff encountered some resistance to the concept of climate change impacts as "disasters." This suggests that in the interim time period, an extensive outreach and education effort is needed to help institutions, businesses and the public understand why and how to consider climate change in hazards planning.

More Info:

http://quake.abag.ca.gov/mitigation/